

Amendments to the Specification

Amend the paragraph bridging pages 1 and 2 to read as follows:

D1
It is possible to connect groups of such devices, e.g., like-colored lights, in parallel in order to reduce the number of wires required for controlling them. However, in order to maximize the number of different display patterns which can be generated, it is desirable to have the devices individually controlled, but this may ~~requires~~ require a very large number of wires. For example, in the case of LEDs, there would have to be one control wire for each LED and a common wire. In the case of illuminated switches, even more wires would be required. For example, in a machine panel with fourteen illuminated switches, a minimum of thirty wires would be required (switch common, lamp common, fourteen switch control wires and fourteen lamp control wires), and this assumes that there is only one lamp per switch or, if multiple lamps per switch, that all the lamps of a switch are connected in parallel. Accordingly, in machines with large numbers of such devices to be controlled, individual control of the devices becomes impractical.

Amend the paragraph bridging pages 4 and 5 to read as follows:

D2
Referring to FIG. 2, each node 20 includes a microcontroller 21 having a VCC terminal 22 coupled to the V+ line 13, a COMMON terminal 23 connected to the COMMON line 14, four device terminals 24, 25, 26 and 27, a DATA IN terminal 28 and a DATA OUT terminal 29. The device terminals 24-27 are respectively connected to four of the devices 30. The microcontroller 21 includes a 4-bit shift register 35, the positions of which are respectively connected to the device terminals 24-27. While, in the illustrated embodiment, there are only four devices 30 included in each node 20, it will be appreciated that different numbers of devices could be included in each node, depending upon the capacity of the microcontroller 21. As was indicated above, the number of nodes 20 in the system 10 will depend upon the total number of devices 30

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p2

to be accessed. In the illustrated embodiment, for example, with four devices per node, if there were 32 devices to be accessed, this would require eight nodes.

Amend the paragraph bridging pages 5 and 6 to read as follows:

Further details of the node 20 are illustrated in FIG. 3. The microcontroller 21 is an 8-pin device, which may be a 12C508 or 12C509, the pins 2, 3, 7 and 8 respectively corresponding to the device terminals 24-27. The node 20 includes a power supply 36 coupled to the V+ line 13 for providing a VCC voltage to the micro controller 21 at its VCC terminal 22 (pin 1). Pin 6 is the COMMON terminal 23 connected to the COMMON line 14 (see FIG. 2). The node has a DATA IN terminal 28 connected through a resistor to pin 4, and pin 5 is connected through a resistor to a DATA OUT terminal 29. The device pins 2, 7, 8 and 3 are, respectively, connected through resistors to transistor drivers 37 which are, in turn, connected through resistors 41 to the device terminals 24-27 which are, respectively, connectable to devices to be accessed. In the embodiment illustrated in FIG. 3, the devices are LEDs 40, the device terminals 24-27 being respectively connected to the cathodes of the LEDs, their anodes being connected to the V+ line 13. The node 20 is provided with 4-pin input and output connectors 38 and 39. Each connector 38 and 39 is connected to the V+ line 13, the COMMON or ground line 14 and the RETURN line 16. The fourth pin of the input connector 38 is connected to the DATA IN terminal 28, while the fourth pin of the output connector 39 is connected to the DATA OUT terminal 29.
